

General Description

The CMS4463 uses advanced trench technology to provide excellent $R_{DS(ON)}$, and ultra-low low gate charge. This device is suitable for use as a load switch or in PWM applications.

Features

- Low On-Resistance
- Simple Drive Requirements
- Surface mount package.
- RoHS Compliant

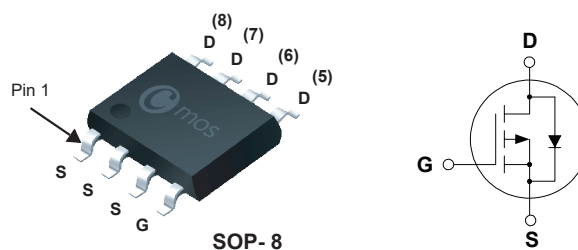
Product Summary

BVDSS	RDSON	ID
-20V	10.5mΩ	-13A

Applications

- Note Book PC
- Lithium Ion Battery Applications
- Load Switch
- Power management

SOP-8 Pin Configuration



Type	Package	Marking
CMS4463	SOP- 8	CMS4463

Absolute Maximum Ratings (TA=25°C Unless Otherwise Noted)

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	-20	V
V_{GS}	Gate-Source Voltage	±12	V
$I_D@T_A=25^\circ\text{C}$	Continuous Drain Current	-13	A
$I_D@T_A=100^\circ\text{C}$	Continuous Drain Current	-8.5	A
I_{DM}	Pulsed Drain Current	-52	A
$P_D@T_A=25^\circ\text{C}$	Total Power Dissipation	3	W
T_{STG}	Storage Temperature Range	-55 to 150	°C
T_J	Operating Junction Temperature Range	-55 to 150	°C

Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
$R_{\theta JA}$	Thermal Resistance, Junction-to-Ambient (Steady State) ¹	---	84	°C/W

P-Channel Enhancement Mode MOSFET

Electrical Characteristics ($T_J=25^\circ\text{C}$, unless otherwise noted)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V$, $I_D=-250\mu A$	-20	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	$V_{GS}=-4.5V$, $I_D=-13A$	---	9.3	10.5	$m\Omega$
		$V_{GS}=-2.5V$, $I_D=-10A$	---	12	14	
$V_{GS(th)}$	Gate Threshold Voltage	$V_{GS}=V_{DS}$, $I_D=-250\mu A$	-0.4	---	-1.5	V
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=-16V$, $V_{GS}=0V$	---	---	-1	μA
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 12V$, $V_{DS}=0V$	---	---	± 100	nA
g_{fs}	Forward Transconductance	$V_{DS}=-10V$, $I_D=-3A$	---	15	---	S
Q_g	Total Gate Charge	$V_{DS}=-10V$, $V_{GS}=-4.5V$, $I_D=-13A$	---	37	---	nC
Q_{gs}	Gate-Source Charge		---	9	---	
Q_{gd}	Gate-Drain Charge		---	11	---	
$T_{d(on)}$	Turn-On Delay Time	$V_{DD}=-10V$, $V_{GEN}=-4.5V$, $R_L=10\Omega$ $R_G=6\Omega$, $I_D=-1A$	---	35	---	ns
T_r	Rise Time		---	60	---	
$T_{d(off)}$	Turn-Off Delay Time		---	120	---	
T_f	Fall Time		---	80	---	
C_{iss}	Input Capacitance	$V_{DS}=-15V$, $V_{GS}=0V$, $f=1MHz$	---	3300	---	pF
C_{oss}	Output Capacitance		---	390	---	
C_{rss}	Reverse Transfer Capacitance		---	300	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
V_{SD}	Diode Forward Voltage	$V_{GS}=0V$, $I_{SD}=-3A$	---	-0.75	-1.2	V

Note :

1. Surface Mounted on 1" x 1" FR4 board.

This product has been designed and qualified for the consumer market.

Cmos assumes no liability for customers' product design or applications.

Cmos reserves the right to improve product design, functions and reliability without notice.

P-Channel Enhancement Mode MOSFET

Typical Characteristics

